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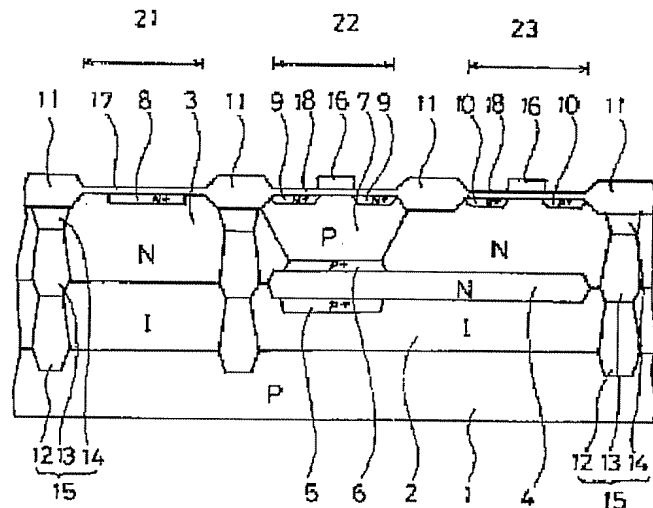
APPLICATION NUMBER : 07307638

APPLICANT : SANYO ELECTRIC CO LTD;

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TITLE : OPTICAL SEMICONDUCTOR DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To prevent the noise of the current flowing to a photodiode having a photodiode and a CMOS (a pair of N-channel and p-channel MOS transistor), and to improve the high speed responsiveness of the photodiode.

SOLUTION: An I-type semiconductor layer 2 is formed on a P-type semiconductor substrate 1, and an N-type epitaxial layer 3 is formed on the I-type semiconductor 2. An N⁺-type buried layer 4 is provided on the region, ranging from the lower part of the P-channel MOS transistor forming region 22, located between the I-type semiconductor layer 2 and the epitaxial layer 3, to the lower part of an N-channel MOS transistor forming region. The current, which flows to a photodiode, is prevented from flowing to a well region 7 by the buried layer 4 and the I-type semiconductor layer 2. Also, a thick depletion layer is formed by the I-type semiconductor layer 2 provided between the substrate 1 and the epitaxial layer 3, and the high speed responsiveness of the photodiode can be improved.

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